



Kentucky Public Service Commission

Report to the Kentucky Energy Policy Advisory Board

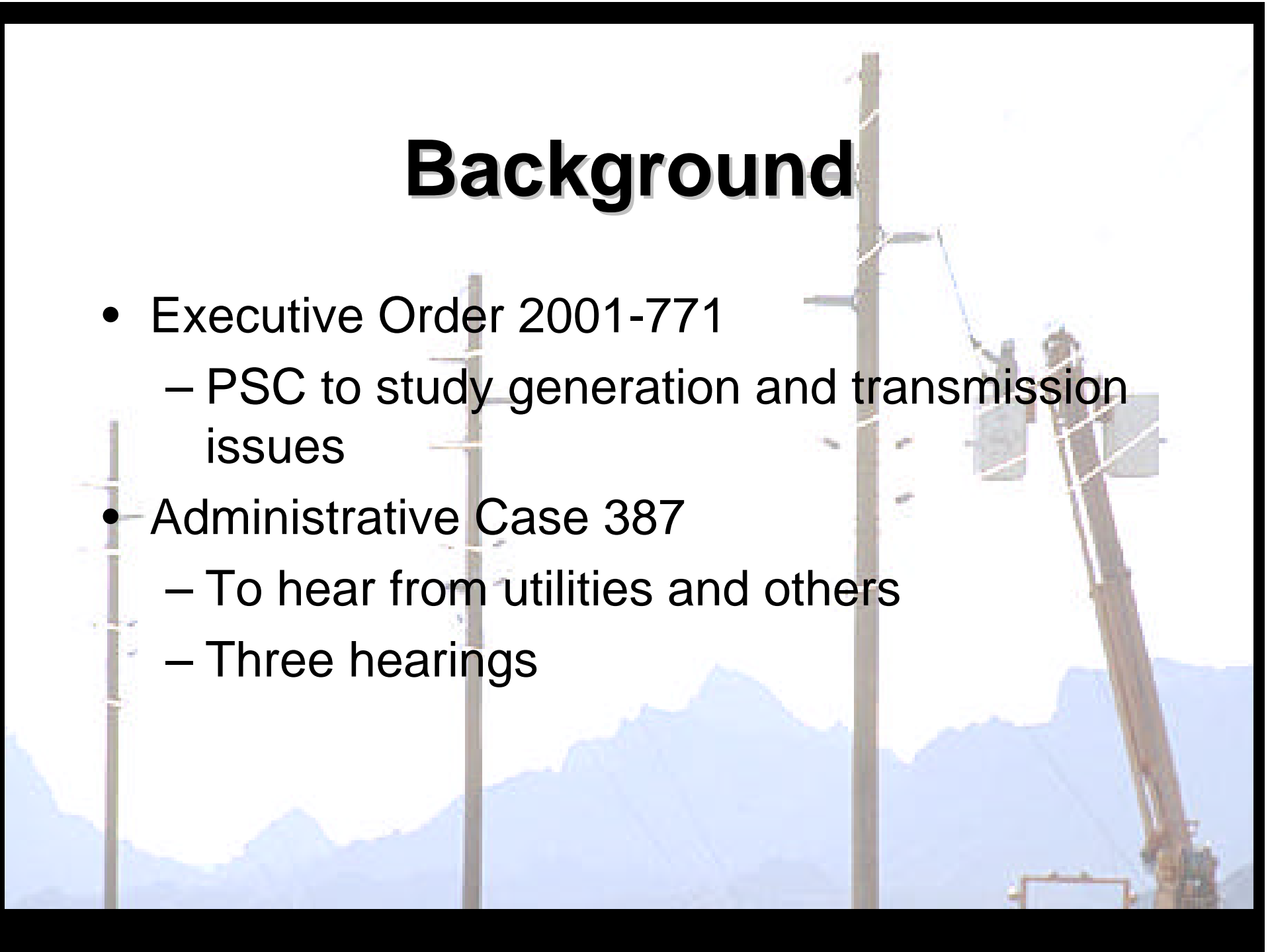
Martin J. Huelsmann
Chairman, PSC December
20, 2001

Overview of Report

- Industry Changes
- Summary and Conclusions: G&T in Kentucky
- Demand and Supply Planning
- Supply Resource Issues
- Related Issues: Public Power Authority, G&T Siting, Curtailment
- Electric Transmission Flow Analysis Model

Background

- Executive Order 2001-771
 - PSC to study generation and transmission issues
- Administrative Case 387
 - To hear from utilities and others
 - Three hearings



Industry Changes

- Federal Energy Policy Act of 1992: IPPs
- FERC Order 888: Open Access Transmission
- Retail Restructuring in other states
- FERC Order 2000: RTOs
- Stricter Environmental Regulations

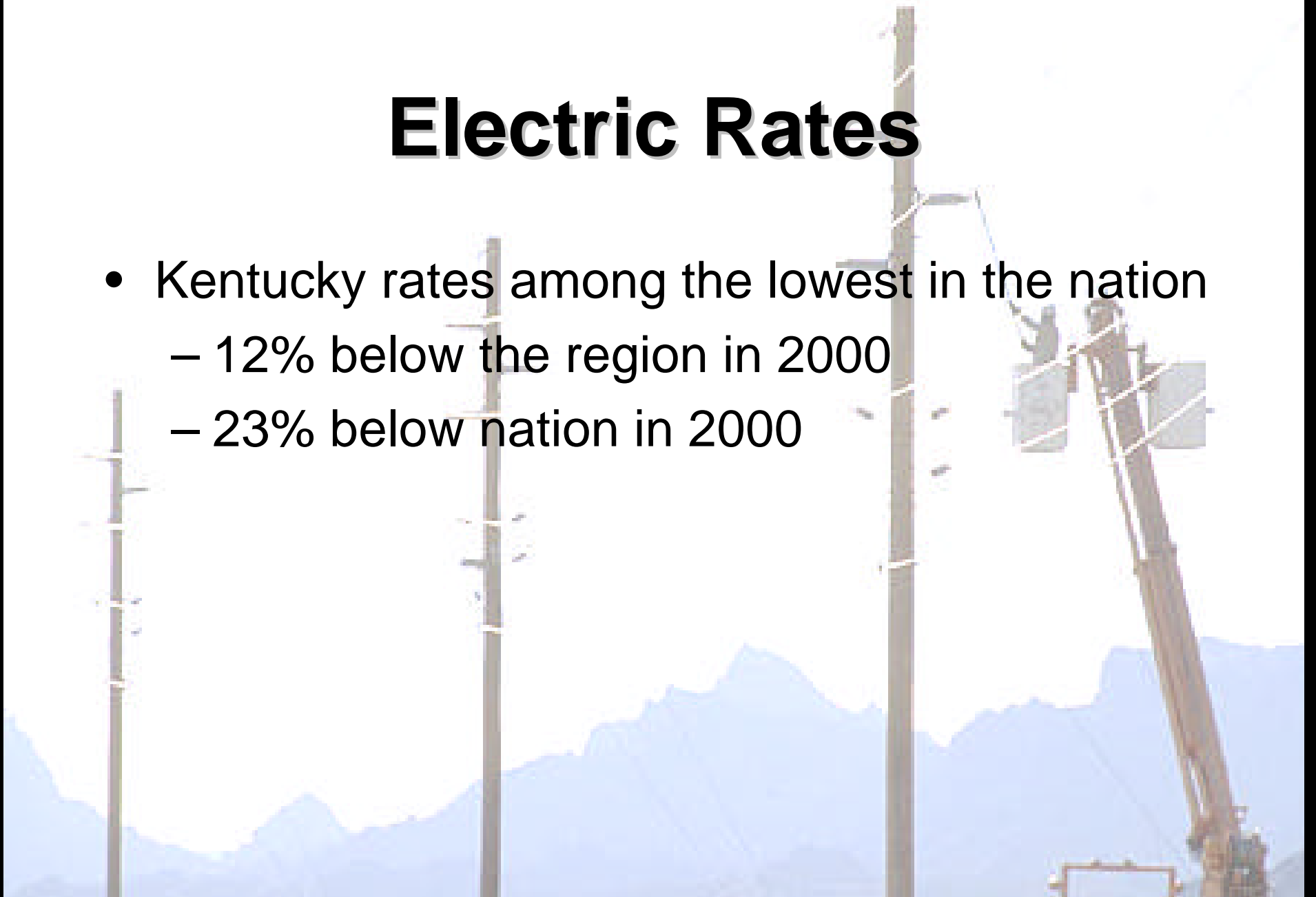
Industry Changes

The background of the slide features a faded image of several tall utility poles with cross-arms and wires. On the right side, a worker is visible in a bucket, performing maintenance or construction on one of the poles. The sky is a pale blue, and the overall image has a soft, semi-transparent appearance.

- All of these have impacted the electric industry
 - Increased volume of large power transfers across greater distances
 - Reductions in reserve margins
 - Reliance on wholesale power purchases, volatility in electricity prices
 - Reliance on gas-fired generation, volatility in natural gas prices

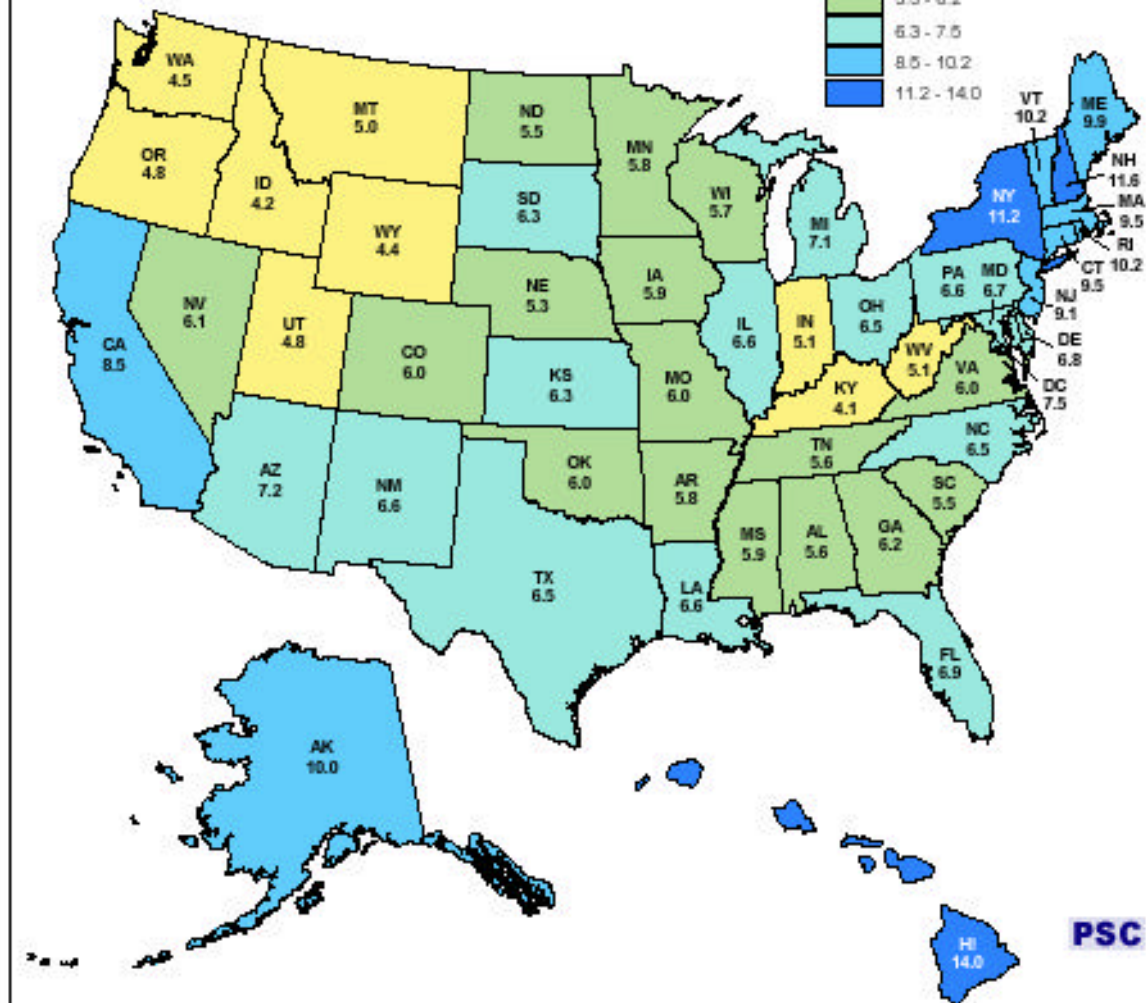
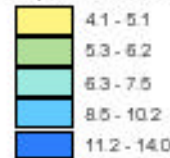
Electric Rates

- Kentucky rates among the lowest in the nation
 - 12% below the region in 2000
 - 23% below nation in 2000



Average Revenue from Electricity Sales
for All Sectors,
Year 2000

Cents per Kilowatthour



Electric Rates

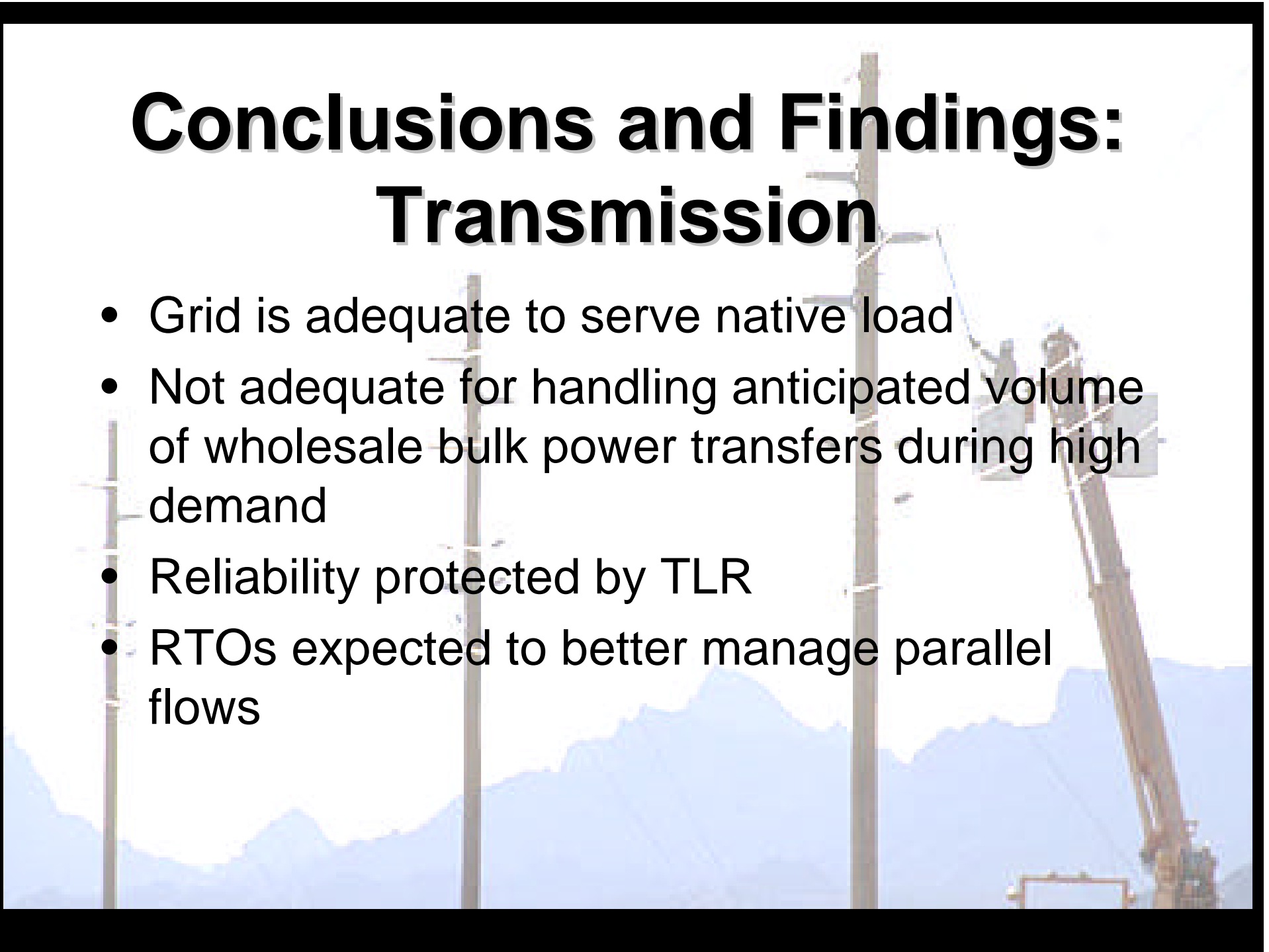
- Kentucky rates among the lowest in the nation
 - 12% below the region in 2000
 - 23% below nation in 2000
- Credit coal-fired generation sold at cost-based rates.
- Major utilities: Big Rivers, East Kentucky Power, LG&E/KU , AEP-Kentucky, and ULH&P

Conclusions and Findings: Generation

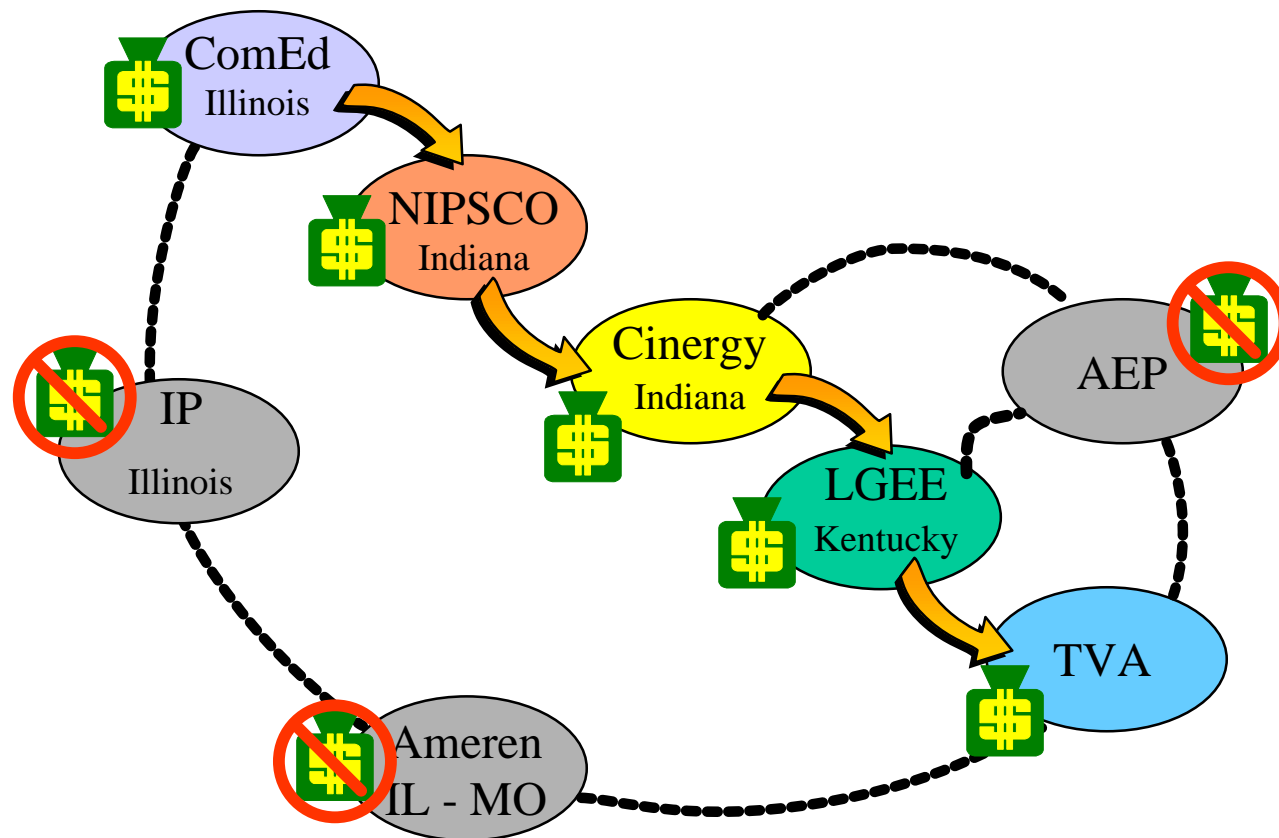
- Generation and supply planning adequate to serve native load. Long term concerns regarding reliance on purchased power.
- Supply Resource Issues
 - Require annual capacity needs assessments starting March 2002.
 - Shared ownership, plant maintenance schedules, DSM
 - Public Power Authority to market coal fired generation?

Conclusions and Findings: Transmission

- Grid is adequate to serve native load
- Not adequate for handling anticipated volume of wholesale bulk power transfers during high demand
- Reliability protected by TLR
- RTOs expected to better manage parallel flows



Parallel Flows



Conclusions and Findings

Transmission (con't.)

- Grid upgrades necessary to accommodate anticipated wholesale transfers
- Cost of upgrades should be borne by cost causers/ beneficiaries of upgrades. Kentucky consumers are not either.
- Kentucky must continue working to ensure that the cost and reliability protections remain.
- Legislation is being drafted giving transmission priority to native load customers

Electric Transmission Flow Analysis Model

- Indicated that, under study conditions, existing system could accommodate 6,000 to 7,800 MW of proposed generation.
- Results dependent on several assumptions.
- **Unless merchant plants obtain firm transmission rights, they will only have access on an as-available basis.**
- **To obtain firm transmission, they must pay for necessary upgrades to system.**

Demand and Supply Planning

- Big Rivers: Purchases 100% at fixed prices
- East Kentucky: Add base load and peaking capacity plus purchased power at fixed prices through 2010.
- LG&E/KU: New peaking capacity and DSM through 2010
- AEP-KY: Market power purchases after 2004
- ULH&P: Fixed price contract through 2006

Supply Resource Issues

- Gas Fired Generation/ Natural Gas Prices
- Joint Ownership/ Scheduled Maintenance
 - Joint studies and report by mid-2002 to PSC
- Demand Side Management
- Impacts of Merchant Power Plants
 - Benefits not adequate to cause native load customers to pay for transmission upgrades.
 - Pricing is key to role in generation planning.

Related Issues



- Public Power Authority
 - Beyond scope of PSC jurisdiction
 - Recommend Board address
- Generation and Transmission Siting
 - Legislation needed
- Curtailment Issues
 - Give native load priority by statute

Orders to Utilities

- File capacity needs assessments annually beginning March 2002
- Conduct joint investigation of shared ownership and report by June 2002
- Conduct study of coordinating maintenance schedules and report by June 2002
- Conduct reserve margin analysis and include in next Integrated Resource Plan
- Evaluate DSM in next IRP